AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please add the following new claims 96-98.

1. (Original) A metal containing waste water treatment method comprising the steps of:

introducing a metal containing waste water from above into a submerged membrane separation tank in which a reaction section, a submerged membrane section that has a submerged membrane and a precipitation section are arranged in order from top to bottom;

adding a pH adjuster to the reaction section so as to cause a reaction with the metal containing waste water;

separating the metal containing waste water into water and metal by the submerged membrane of the submerged membrane section; and

precipitating and concentrating the separated metal in the precipitation section.

2. (CANCELED)
3. (CANCELED)
4. (CANCELED)
5. (CANCELED)
6. (CANCELED)
7. (CANCELED)
8. (CANCELED)

9. (Original) The metal containing waste water treatment method as claimed in claim 1, wherein

the metal containing waste water is a waste water that contains a compound semiconductor, and the pH adjuster is sodium hydroxide.

10. (Original) The metal containing waste water treatment method as claimed in claim 9, wherein

the waste water that contains the compound semiconductor is a waste water that contains gallium arsenide.

11. (CANCELED)

12. (CANCELED)

13. (CANCELED)

14. (CANCELED)

15. (Original) The metal containing waste water treatment method as claimed in claim 13, wherein

the coagulant is ferric chloride, and the pH adjuster is sodium hydroxide.

16. (CANCELED)

17. (CANCELED)

18. (CANCELED)

19. (CANCELED)

20. (CANCELED)

21. (Original) A metal containing waste water treatment method for carrying out waste water treatment by microorganically oxidizing trivalent arsenic in the arsenic containing waste water to pentavalent arsenic by an arsenic oxidizing bacterium.

22. (Original) The metal containing waste water treatment method as claimed in claim 21, wherein

the waste water treatment is carried out by changing the trivalent arsenic in the arsenic containing waste water into the pentavalent arsenic by the arsenic oxidizing bacterium and adding a coagulant and a pH adjuster.

23. (Original) A metal containing waste water treatment method for collecting metal from a metal containing waste water, comprising the steps of:

separating a first metalhydroxide from the waste water by making the metal containing waste water pass through a first submerged membrane separation unit with a pH adjuster added;

separating a concentrate brine that contains another metal dissolved in the waste water from the waste water by making the waste water pass through a reverse osmosis membrane separation unit; and

sending the concentrate brine that contains said another metal back to the first submerged membrane separation unit and adding the concentrate brine to the waste water together with the pH adjuster.

24. (Original) The metal containing waste water treatment method as claimed in claim 23, wherein

the metal containing waste water is made to pass through the second submerged membrane separation unit with a pH adjuster and a coagulant added to the metal containing waste water in a stage behind the first submerged membrane separation unit,

the resulting liquid is made to pass through the reverse osmosis membrane separation unit with a pH adjuster added and further pass through an ultrapure water generating system arranged in a stage behind the reverse osmosis membrane separation unit, and

the concentrate brine from the reverse osmosis membrane separation unit is sent back to the first submerged membrane separation unit and added to the waste water together with the pH adjuster.

25. (Original) The metal containing waste water treatment method as claimed in claim 24, wherein

the water obtained from an electric deionization unit arranged behind the reverse osmosis membrane separation unit is recycled by being introduced into an ultrapure water generating system, and

a concentrate brine from the reverse osmosis membrane separation unit and the electric deionization unit is sent back to the first submerged membrane separation unit, added to the waste water together with the pH adjuster and made to pass through the first submerged membrane separation unit.

26. (Original) The metal containing waste water treatment method as claimed in claim 25, wherein

a pH adjuster, a coagulant and metal oxidizing bacterium are added in a stage behind the first submerged membrane separation unit and before the second submerged membrane separation unit.

27. (Original) A metal containing waste water treatment method comprising the steps of:

introducing a metal containing compound semiconductor waste water from above into a first submerged membrane separation tank in which a reaction section, a submerged membrane section that has a submerged membrane and a precipitation section are arranged in order from top to bottom and adding a pH adjuster to the reaction section so as to cause a reaction;

subsequently separating metal from the waste water by the submerged membrane of the submerged membrane section and subsequently precipitating and concentrating the metal in the precipitation section;

treating a treated water obtained by the submerged membrane sequentially in an arsenic- and phosphorus-removing unit, an activated carbon adsorption unit, a reverse

osmosis membrane unit and an electric deionization unit and thereafter introducing the resulting liquid into an ultrapure water generating system; and

sending a concentrate brine from the reverse osmosis membrane separation unit and the electric deionization unit back to the reaction section.

28. (Original) The metal containing waste water treatment method as claimed in claim 27, wherein

a concentrate concentrated in the first submerged membrane separation tank is further concentrated by being introduced into a second submerged membrane separation tank arranged below the first submerged membrane separation tank.

29. (Original) The metal containing waste water treatment method as claimed in claim 28, wherein

a treated water from the submerged membrane of the first submerged membrane separation tank and the submerged membrane of the second submerged membrane separation tank are introduced into a reaction section of a third submerged membrane separation tank together with a pH adjuster and a coagulant,

the precipitate in the third submerged membrane separation tank is further concentrated in a fourth submerged membrane separation tank,

a treated water separated by the submerged membranes of the third submerged membrane separation tank and the fourth submerged membrane separation tank is meanwhile treated sequentially in an activated carbon adsorption unit, a reverse osmosis membrane unit and an electric deionization unit and thereafter introduced into an ultrapure water generating system, and

a concentrate brine from the reverse osmosis membrane unit and the electric deionization unit is sent back to a reaction section of the first submerged membrane separation tank.

30. (Original) The metal containing waste water treatment method as claimed in claim 29, wherein

an arsenic oxidizing bacterium is cultured and concentrated by introducing part of the metal containing waste water from compound semiconductor plant and a developer waste water into a fifth submerged membrane separation tank, and the arsenic oxidizing bacterium is introduced into the third submerged membrane separation tank.

31. (Original) The metal containing waste water treatment method as claimed in claim 30, wherein

part of the concentrate brine precipitated in the third submerged membrane separation tank is sent back to the fifth submerged membrane separation tank.

32. (Original) The metal containing waste water treatment method as claimed in claim 31, wherein

the arsenic oxidizing bacterium cultured in the fifth submerged membrane separation tank is introduced into the first submerged membrane separation tank and the third submerged membrane separation tank.

33. (Original) The metal containing waste water treatment method as claimed in claim 26, wherein

the metal oxidizing bacterium is an arsenic oxidizing bacterium.

34. (Original) The metal containing waste water treatment method as claimed in claim 27, wherein

metal is precipitated and concentrated in the precipitation section and thereafter further concentrated by an evaporator.

35. (Original) The metal containing waste water treatment method as claimed in claim 30, wherein

the liquid precipitated and concentrated in the first submerged membrane separation tank is concentrated by being introduced into an evaporator, and

the liquid precipitated and concentrated in the third submerged membrane separation tank is meanwhile concentrated by being introduced into an evaporator.

36. (Original) The metal containing waste water treatment method as claimed in claim 32, wherein

the waste water from compound semiconductor plant is a waste water that contains hydrogen peroxide containing gallium arsenide.

37. (Original) A metal containing waste water treatment method for treating metal and water contained in a waste water from compound semiconductor plant and separately collecting the metal and water, thereby establishing a completely closed treatment system.

38. (Original) A metal containing waste water treatment method for treating metal and water contained in a waste water from compound semiconductor plant, separately collecting the metal and water, collecting the metal as a valuable substance and meanwhile collecting the water as a raw water for an ultrapure water generating system, thereby establishing a completely closed treatment system.

39. (Original) A metal containing waste water treatment method for treating gallium, arsenic and water in a gallium arsenide waste water and separately collecting the gallium, arsenic and water, thereby establishing a completely closed treatment system.

40. (Original) A metal containing waste water treatment method for treating gallium, arsenic and water in a gallium arsenide waste water, separately collecting the gallium, arsenic and water, collecting the gallium and arsenic as valuable substances and meanwhile collecting the water as a raw water for an ultrapure water generating system, thereby establishing a completely closed treatment system.

41. (Original) The metal containing waste water treatment method as claimed in claim 40, wherein

a microorganism is used for treating the arsenic.

42. (Original) The metal containing waste water treatment method as claimed in claim 41, wherein

the microorganism is a metal oxidizing bacterium.

43. (Original) The metal containing waste water treatment method as claimed in claim 42, wherein

the metal oxidizing bacterium is an arsenic oxidizing bacterium.

44. (Original) A metal containing waste water treatment method for collecting metal from a metal containing waste water, comprising the steps of:

preliminarily adding a pH adjuster to the waste water so as to cause a reaction;

making the resulting waste water pass through a multistage type submerged membrane separation unit including submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section arranged below the submerged membranes for precipitating a reactant by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes in order to separate a metalhydroxide from the waste water;

separating a concentrate brine that contains another metal dissolved in the waste water from the waste water by making the treated water, from which the metalhydroxide has been removed, pass through a reverse osmosis membrane separation unit; and

sending the concentrate brine that contains said another metal back to a stage before the multistage type submerged membrane separation unit and adding the concentrate brine to the waste water together with the pH adjuster.

45. (Original) The metal containing waste water treatment method as claimed in claim 44, wherein

a pH adjuster and a coagulant are added in a stage behind the multistage type submerged membrane separation unit that serves as a first multistage type submerged membrane separation unit,

next the resulting waste water is made to pass through a second multistage type submerged membrane separation unit, which has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section for precipitating a reactant by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes,

the resulting liquid is subsequently made to pass through a reverse osmosis membrane separation unit with a pH adjuster added,

a treated water from the reverse osmosis membrane separation unit is further introduced into an ultrapure water generating system arranged in a stage behind the reverse osmosis membrane separation unit, and

the concentrate brine from the reverse osmosis membrane separation unit is sent back to a stage before the first multistage type submerged membrane separation unit and the concentrate brine is added to the waste water together with the pH adjuster.

46. (Original) The metal containing waste water treatment method as claimed in claim 45, wherein

the treated water obtained by the reverse osmosis membrane separation unit is made to pass through an electric deionization unit, a treated water obtained from the electric deionization unit is recycled by being introduced into an ultrapure water generating system, and

a concentrate brine from the reverse osmosis membrane separation unit and the electric deionization unit is meanwhile sent back to the stage before the first multistage type submerged membrane separation unit and added to the waste water together with the pH adjuster.

47. (Original) The metal containing waste water treatment method as claimed in claim 46, wherein

a pH adjuster, a coagulant and a metal oxidizing bacterium are added in a stage behind the first multistage type submerged membrane separation unit.

48. (Original) A metal containing waste water treatment method comprising the steps of:

adding a pH adjuster to a waste water from compound semiconductor plant in a pH adjustment tank so as to cause a reaction;

introducing the waste water from the pH adjustment tank upwardly in an upward flow into a multistage submerged membrane separation tank in which an upper portion where a pH meter is placed, a submerged membrane section that includes submerged membranes arranged vertically in a plurality of tiers and a diaphragm for vibrating the submerged membranes and an adhesional precipitation section for making a reactant adhere to a filler are arranged in order from top to bottom;

primarily separating a metal from the waste water by physically catching and filtering the metal in the waste water in the adhesional precipitation section and secondarily separating the metal from the waste water by the submerged membranes in the submerged membrane section;

treating a treated water obtained by the submerged membranes sequentially in an arsenic- and phosphorus-removing unit, an activated carbon adsorption unit, a reverse osmosis membrane unit and an electric deionization unit and thereafter introducing the resulting liquid into an ultrapure water generating system; and

sending a concentrate brine from the reverse osmosis membrane unit and the electric deionization unit back to the pH adjustment tank.

49. (Original) The metal containing waste water treatment method as claimed in claim 48, wherein

the treated water and the concentrate brine from the first multistage type submerged membrane separation unit is treated by being introduced into a second submerged membrane separation tank arranged below the multistage type submerged membrane separation tank that serves as a first submerged membrane separation tank.

50. (Original) The metal containing waste water treatment method as claimed in claim 49, wherein

the pH adjustment tank is served as a first pH adjustment tank,

the treated water from the submerged membrane of the first submerged membrane separation tank and the submerged membrane of the second submerged membrane separation tank is introduced into a second pH adjustment tank together with a pH adjuster so as to cause a reaction,

the treated water from the second pH adjustment tank is subsequently introduced upwardly in an upward flow into a multistage submerged membrane separation tank that serves as a third submerged membrane separation tank in which an upper portion where a pH meter is placed, a submerged membrane section that includes submerged membranes arranged vertically in a plurality of tiers and a diaphragm for vibrating the submerged membranes and an adhesional precipitation section for precipitating a reactant by making the reactant adhere to a filler are arranged in order from top to bottom, a metal is

separated from the treated water, the metal is further concentrated in a fourth submerged membrane separation tank arranged below the third submerged membrane separation tank,

the treated water separated by the submerged membranes of the third submerged membrane separation tank and the fourth submerged membrane separation tank is treated sequentially in an activated carbon adsorption unit, a reverse osmosis membrane unit and an electric deionization unit and thereafter introduced into an ultrapure water generating system, and

a concentrate brine from the reverse osmosis membrane unit and the electric deionization unit is sent back to the first pH adjustment tank.

51. (Original) The metal containing waste water treatment method as claimed in claim 50, wherein

an arsenic oxidizing bacterium cultured and concentrated in the fifth submerged membrane separation tank into which part of the waste water from compound semiconductor plant that contains a developer waste water and a metal are introduced into the third submerged membrane separation tank.

52. (Original) The metal containing waste water treatment method as claimed in claim 51, wherein

part of the concentrate brine precipitated in the third submerged membrane separation tank is sent back to the fifth submerged membrane separation tank.

53. (Original) The metal containing waste water treatment method as claimed in claim 52, wherein

an arsenic oxidizing bacterium cultured in the fifth submerged membrane separation tank is introduced into the first submerged membrane separation tank and the third submerged membrane separation tank.

54. (Original) The metal containing waste water treatment method as claimed in claim 47, wherein

the metal oxidizing bacterium is an arsenic oxidizing bacterium.

55. (Original) The metal containing waste water treatment method as claimed in claim 48, wherein

the resulting liquid is further condensed by being introduced into an evaporator after the metal is precipitated and condensed in the adhesional precipitation section.

56. (Original) The metal containing waste water treatment method as claimed in claim 51, wherein

the liquid precipitated and concentrated in the first submerged membrane separation tank is concentrated by being introduced into an evaporator, and

the liquid precipitated and concentrated in the third submerged membrane separation tank is concentrated by being introduced into an evaporator.

57. (Original) The metal containing waste water treatment method as claimed in claim 53, wherein

an influent water is a waste water from compound semiconductor plant that contains hydrogen peroxide containing gallium arsenide.

58. (Original) A metal containing waste water treatment method for subjecting metal and water contained in a waste water from compound semiconductor plant to a physical treatment, a biological treatment and a chemical treatment to collect gallium and other metals by separation, thereby establishing a completely closed treatment system.

59. (Original) A metal containing waste water treatment method for subjecting metal and water contained in a waste water from compound semiconductor plant to a physical

treatment, a biological treatment and a chemical treatment to collect gallium and other metals by separation, collecting the metal as a valuable substance and collecting the water as a raw water for an ultrapure water generating system, thereby establishing a completely closed treatment system.

60. (Original) A metal containing waste water treatment method for subjecting gallium, arsenic, phosphorus and water in a waste water that contains gallium arsenide and gallium phosphide to a physical treatment, a biological treatment and a chemical treatment, and

separately collecting the substances as gallium and a mixture of arsenic and phosphorus, thereby establishing a completely closed treatment system.

61. (Original) A metal containing waste water treatment method for subjecting gallium, arsenic, phosphorus and water in a waste water that contains gallium arsenide and gallium phosphide to a physical treatment, a biological treatment and a chemical treatment,

separately collecting the substances as gallium and a mixture of arsenic and phosphorus,

collecting the gallium and the mixture of arsenic and phosphorus as valuable substances and collecting the water as a raw water for an ultrapure water generating system, thereby establishing a completely closed treatment system.

62. (Original) The metal containing waste water treatment method as claimed in claim 61, wherein

a microorganism is used for treating the arsenic.

63. (Original) The metal containing waste water treatment method as claimed in claim 62, wherein

the microorganism is a metal oxidizing bacterium.

64. (Original) The metal containing waste water treatment method as claimed in claim 63, wherein

the metal oxidizing bacterium is an arsenic oxidizing bacterium.

65. (Original) A metal containing waste water treatment method for treating a waste water by introducing a waste water into a multistage submerged membrane separation tank constructed of a lower portion that has an adhesional precipitation section, a submerged membrane section that serves as an intermediate portion in which submerged membranes are arranged in a plurality of tiers and an upper portion where a pH meter is placed, from the lower portion.

66. (Original) A metal containing waste water treatment method for treating a waste water by introducing a waste water into a multistage submerged membrane separation tank constructed of a lower portion that has an adhesional precipitation section, a submerged membrane section serving as an intermediate portion that has submerged membranes arranged in a plurality of tiers and a vibrating device for vibrating the submerged membranes and an upper portion where a pH meter is placed, from the lower portion.

67. (Original) The metal containing waste water treatment method as claimed in claim 66, wherein

the multistage submerged membrane separation tank is provided with a vibrating device, and

the vibrating device is constructed of a frequency transmitter, a diaphragm and a signal line.

68. (Original) The metal containing waste water treatment method as claimed in claim 66, wherein

the submerged membranes are arranged vertically in a plurality of tiers, and the submerged membranes are cleaned by air discharged from one air diffusion pipe.

69. (Original) The metal containing waste water treatment method as claimed in claim 68, wherein

the multistage submerged membrane separation tank has an unloading port for unloading the submerged membranes arranged vertically in a plurality of tiers by horizontally moving the submerged membranes.

70. (Original) A metal containing waste water treatment method for collecting metal from a metal containing waste water, comprising the steps of:

preliminarily adding a pH adjuster to a waste water in a first pH adjustment tank so as to cause a reaction, thereafter introducing the generated metalhydroxide into a foam separation tank, making bubbles generated in the waste water in the foam separation tank adhere to the metalhydroxide and making the metalhydroxide surface, thereby subjecting the metalhydroxide to foam separation;

making a treated water obtained after the separation of the metalhydroxide pass through a multistage type submerged membrane separation unit that has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section that is placed below the submerged membranes and precipitate a reactant obtained through the reaction by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes, thereby further separating the metalhydroxide from the treated water;

separating a concentrate brine that contains another metal dissolved in the treated water from the treated water by making the treated water pass through a reverse osmosis

membrane separation unit and sending the concentrate brine that contains said another metal back to the first pH adjustment tank;

introducing the metalhydroxide separated in the foam separation tank and the multistage type submerged membrane separation unit into an evaporator and concentrating the metalhydroxide; and

cooling steam evaporated from the evaporator to restore water and introducing the resulting water into a second pH adjustment tank in a stage before the reverse osmosis membrane separation unit.

71. (Original) The metal containing waste water treatment method as claimed in claim 70, wherein

the multistage type submerged membrane separation unit is served as a first multistage type submerged membrane separation unit,

a reaction tank to which a pH adjuster and a coagulant are added is arranged in a stage behind the first multistage type submerged membrane separation unit and a treated water from the first multistage type submerged membrane separation unit is made to react,

a treated water from the reaction tank is made to further pass through a second multistage type submerged membrane separation unit that has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section that is placed below the submerged membranes and precipitates a reactant obtained through the reaction by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes,

the resulting water is subsequently made to pass through a second pH adjustment tank to which a pH adjuster is added and a reverse osmosis membrane separation unit,

a treated water from the reverse osmosis membrane separation unit is further introduced into an ultrapure water generating system arranged in a stage behind the reverse osmosis membrane separation unit,

a concentrate brine from the reverse osmosis membrane separation unit is sent back to the first pH adjustment tank,

a metalhydroxide separated by the foam separation tank, the first multistage type submerged membrane separation unit and the second multistage type submerged membrane separation unit is meanwhile introduced into an evaporator and concentrated, and

steam evaporated from the evaporator is restored into water and utilized as a raw water for an ultrapure water generating system.

72. (Original) The metal containing waste water treatment method as claimed in claim 71, wherein

the treated water from the reverse osmosis membrane separation unit is made to pass through an electric deionization unit arranged in a stage behind the reverse osmosis membrane separation unit,

a treated water from the electric deionization unit is recycled by being introduced into an ultrapure water generating system, and

a concentrate brine from the reverse osmosis membrane separation unit and the electric deionization unit is sent back to the first pH adjustment tank and introduced into the tank together with the pH adjuster.

73. (Original) The metal containing waste water treatment method as claimed in claim 72, wherein

a pH adjuster, a coagulant and a ferrooxidans bacterium are added to a reaction tank arranged in a stage behind the first multistage type membrane separation unit.

74. (Original) A metal containing waste water treatment method, comprising steps of:

introducing a compound semiconductor waste water that contains gallium arsenide, gallium phosphide and so on into a pH adjustment tank so as to cause a reaction with a pH adjuster added;

thereafter introducing a waste water from the pH adjustment tank into a foam separation tank, making bubbles generated in the waste water in the foam separation tank adhere to a metalhydroxide obtained through the reaction so as to make the metalhydroxide surface, thereby subjecting the metalhydroxide to foam separation;

introducing a treated water obtained after the separation of the metalhydroxide upwardly in an upward flow into a multistage type submerged membrane separation tank in which an upper portion where a pH meter is placed, a submerged membrane section that includes submerged membranes arranged vertically in a plurality of tiers and a diaphragm for vibrating the submerged membrane and an adhesional precipitation section for precipitating a reactant obtained through the reaction by making the reactant adhere to a filler are arranged in order from top to bottom;

primarily separating a metal from the treated water by physically catching and filtering the metal in the treated water in the adhesional precipitation section;

secondarily separating a metalhydroxide from the treated water by the submerged membranes of the submerged membrane section, treating the treated water obtained by the submerged membranes sequentially in an arsenic- and phosphorus-removing unit, an activated carbon absorption unit, a reverse osmosis membrane unit and an electric deionization unit, thereafter introducing the resulting liquid into an ultraviolet sterilizer, a cartridge polisher and an ultrafilter unit to produce an ultrapure water and supply the ultrapure water to each production unit and introducing a waste water from each production unit into the pH adjustment tank;

sending and introducing a concentrate brine from the activated carbon absorption unit, the reverse osmosis membrane unit, the electric deionization unit and the ultrafilter unit back into the pH adjustment tank; and

concentrating the metalhydroxide concentrated in the foam separation tank and the multistage type submerged membrane separation unit by introducing the metalhydroxide into an evaporator, cooling steam evaporated from the evaporator to restore water, making the water join the water separated in the multistage type submerged membrane separation tank and introducing the resulting liquid into the arsenic- and phosphorus-removing unit.

75. (Original) The metal containing waste water treatment method as claimed in claim 74, wherein

the multistage type submerged membrane separation tank is served as a first multistage type submerged membrane separation tank,

the metalhydroxide from the first multistage type submerged membrane separation tank is introduced into a second submerged membrane separation tank arranged below the first multistage type submerged membrane separation tank, and

the metalhydroxide from the second submerged membrane separation tank is introduced into an evaporator so as to concentrate the metalhydroxide and steam obtained from the evaporator is cooled and restored into water and treated by being introduced into the arsenic- and phosphorus-removing unit.

76. (Original) The metal containing waste water treatment method as claimed in claim 75, wherein

the water from the submerged membranes of the first submerged membrane separation tank and the submerged membrane of the second submerged membrane separation tank is introduced into a reaction tank together with a pH adjuster and a coagulant so as to cause a reaction,

the resulting liquid is introduced upwardly in an upward flow into a third multistage submerged membrane separation tank in which an upper portion where a pH meter is placed, a submerged membrane section that includes submerged membranes

arranged vertically in a plurality of tiers and a diaphragm for vibrating the submerged membranes and an adhesional precipitation section for precipitating a reactant obtained through the reaction by making the reactant adhere to a filler are arranged in order from top to bottom, thereby separating water from a metalhydroxide,

the metalhydroxide is further concentrated in a fourth submerged membrane separation tank arranged below the third multistage type submerged membrane separation tank,

the treated water separated by the submerged membranes of the third multistage type submerged membrane separation tank and the fourth submerged membrane separation tank is sequentially introduced into an activated carbon absorption unit, a reverse osmosis membrane separation unit and an electric deionization unit, thereafter the resulting liquid is introduced into an ultraviolet sterilizer, a cartridge polisher and an ultrafilter unit, a concentrate brine from the reverse osmosis membrane unit, the electric deionization unit and the ultrafilter unit is sent back to the pH adjustment tank,

a metalhydroxide from the second submerged membrane separation tank is introduced into the evaporator so as to concentrate the metalhydroxide, steam obtained from the evaporator is cooled and restored into water, made to join the water separated in the second multistage type submerged membrane separation tank and introduced into the reaction tank, and

a metalhydroxide from the fourth submerged membrane separation tank is introduced into an evaporator so as to concentrate the metalhydroxide, steam obtained from the evaporator is cooled and restored into water, made to join the water separated in the fourth multistage type submerged membrane separation tank and introduced into the activated carbon adsorption unit.

77. (Original) The metal containing waste water treatment method as claimed in claim 76, wherein

part of a waste water from compound semiconductor plant that includes a developer waste water and a metal is introduced into a fifth submerged membrane separation tank, an arsenic oxidizing bacterium cultured and concentrated in the fifth submerged membrane separation tank is introduced into the third multistage type submerged membrane separation tank via the reaction tank.

78. (Original) The metal containing waste water treatment method as claimed in claim 77, wherein

part of a concentrate brine precipitated in the third multistage type submerged membrane separation tank is sent back to the fifth submerged membrane separation tank.

79. (Original) The metal containing waste water treatment method as claimed in claim 78, wherein

the arsenic oxidizing bacterium cultured in the fifth submerged membrane separation tank is introduced into the first multistage type submerged membrane separation tank and the third multistage type submerged membrane separation tank.

80. (Original) The metal containing waste water treatment method as claimed in claim 73, wherein

the ferrooxidans bacterium is an arsenic oxidizing bacterium.

81. (Original) The metal containing waste water treatment method as claimed in claim 74, wherein

not only the waste water from compound semiconductor plant that contains gallium arsenide, a pH adjuster toach production unit but also the developer waste water from each production unit are treated by being introduced into the pH adjustment tank.

82. (Original) The metal containing waste water treatment method as claimed in claim 74, wherein

the concentrate brine precipitated and concentrated in the first multistage type submerged membrane separation tank and a floating substance that has surfaced and separated in the foam separation tank are concentrated by being introduced into an evaporator,

the treated water from the submerged membrane of the first multistage type submerged membrane separation tank and the evaporator is introduced into a reaction tank together with a pH adjuster and a coagulant so as to cause a reaction,

the resulting liquid is introduced upwardly in an upward flow into a third multistage type submerged membrane separation tank in which an upper portion where a pH meter is placed, a submerged membrane section that includes submerged membranes arranged vertically in a plurality of tiers and a diaphragm for vibrating the submerged membranes and an adhesional precipitation section for precipitating a reactant obtained through the reaction by making the reactant adhere to a filler are arranged in order from top to bottom, thereby separating water from a metalhydroxide, and

the liquid precipitated and concentrated in the third multistage type submerged membrane separation tank is concentrated by being introduced into an evaporator.

83. (Original) The metal containing waste water treatment method as claimed in claim 79, wherein

an influent water to the pH adjustment tank is a waste water from compound semiconductor plant that contains hydrogen peroxide and contains gallium arsenide, gallium phosphide and so on.

84. (Original) A metal containing waste water treatment method comprising the steps of:

causing a reaction of metal and water contained in a waste water from compound semiconductor plant that contains gallium arsenide with a pH adjuster added in a pH

adjustment tank, making bubbles generated in a waste water adhere to a metalhydroxide generated through the reaction in a foam separation tank so as to make the metalhydroxide surface in the waste water, thereby subjecting the metalhydroxide to foam separation; and

making the treated water that has passed through the foam separation tank pass from below through a multistage type submerged membrane separation tank, which has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section that is placed below the submerged membranes and precipitates a reactant caused by the reaction by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes, thereby further separating the metalhydroxide from the treated water,

whereby the waste water is subjected to a physical treatment, a biological treatment and a chemical treatment, and

the resulting liquid is thereafter treated in an evaporator so as to separate the liquid into gallium, other metals and water and separately collect the substances, thereby establishing a completely closed treatment system.

85. (Original) A metal containing waste water treatment method comprising the steps of:

causing a reaction of metal and water contained in a waste water from compound semiconductor plant that contains gallium arsenide with a pH adjuster added in a pH adjustment tank, making bubbles generated in a waste water adhere to a metalhydroxide generated through the reaction in a foam separation tank so as to make the metalhydroxide surface in the waste water, thereby subjecting the metalhydroxide to foam separation; and

making the treated water that has passed through the foam separation tank pass from below through a multistage type submerged membrane separation tank, which has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section that is placed below the submerged membranes and precipitates a

reactant caused by the reaction by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes, thereby further separating the metalhydroxide from the treated water,

whereby the waste water is subjected to a physical treatment, a biological treatment and a chemical treatment, and

the resulting liquid is thereafter treated in an evaporator so as to separate the liquid into gallium, other metals and water and separately collect the substances, collecting the metals as valuable substances and collecting the water as a raw water for an ultrapure water generating system, thereby establishing a completely closed treatment system.

86. (Original) A metal containing waste water treatment method comprising the steps of:

causing a reaction of gallium, arsenic, phosphorus and water in a waste water of gallium arsenide and gallium phosphide with a pH adjuster added in a pH adjustment tank, making bubbles generated in a waste water adhere to a metalhydroxide generated through the reaction in a foam separation tank so as to make the metalhydroxide surface in the waste water, thereby subjecting the metalhydroxide to foam separation; and

making the treated water that has passed through the foam separation tank pass from below through a multistage type submerged membrane separation tank, which has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section that is placed below the submerged membranes and precipitates a reactant caused by the reaction by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes, thereby further separating the metalhydroxide from the treated water,

whereby the waste water is subjected to a physical treatment, a biological treatment and a chemical treatment, and

the resulting liquid is thereafter treated in an evaporator so as to separately collect gallium, a mixture of arsenic and phosphorus and water, thereby establishing a completely closed treatment system.

87. (Original) A metal containing waste water treatment method comprising the steps of:

causing a reaction of gallium, arsenic, phosphorus and water in a waste water of gallium arsenide and gallium phosphide with a pH adjuster added in a pH adjustment tank, making bubbles generated in a waste water adhere to a metalhydroxide generated through the reaction in a foam separation tank so as to make the metalhydroxide surface in the waste water, thereby subjecting the metalhydroxide to foam separation; and

making the treated water that has passed through the foam separation tank pass from below through a multistage type submerged membrane separation tank, which has submerged membranes arranged vertically in a plurality of tiers, an adhesional precipitation section that is placed below the submerged membranes and precipitates a reactant caused by the reaction by making the reactant adhere to a filler and a diaphragm for vibrating the submerged membranes, thereby further separating the metalhydroxide from the treated water,

whereby the waste water is subjected to a physical treatment, a biological treatment and a chemical treatment, and

the resulting liquid is thereafter treated in an evaporator so as to separately collect gallium, a mixture of arsenic and phosphorus and water, collecting the gallium and the mixture of arsenic and phosphorus as valuable substances and collecting the water as a raw water for an ultrapure water generating system, thereby establishing a completely closed treatment system.

88. (Original) The metal containing waste water treatment method as claimed in claim 87, wherein

a microorganism is used for the treatment of arsenic.

89. (Original) The metal containing waste water treatment method as claimed in claim 88, wherein

the microorganism is a metal oxidizing bacterium.

90. (Original) The metal containing waste water treatment method as claimed in claim 89, wherein

the metal oxidizing bacterium is an arsenic oxidizing bacterium.

91. (Original) A metal containing waste water treatment method for treating a waste water by introducing the waste water into a multistage type submerged membrane separation tank constructed of a lower portion that has an adhesional precipitation section for catching and precipitating a metal contained in the waste water, an intermediate portion constructed of a submerged membrane section in which submerged membranes are arranged in a plurality of tiers and an upper portion where a pH meter is placed, from the lower portion.

92. (Original) A metal containing waste water treatment method comprising the steps of:

firstly introducing a metal containing waste water into a foam separation tank and making bubbles adhere to a metal contained in the metal containing waste water, thereby subjecting the metal containing waste water to foam separation; and

treating a treated water from the foam separation tank by introducing the treated water into a multistage type submerged membrane separation tank constructed of a lower portion that has an adhesional precipitation section for catching and precipitating a metal contained in the metal containing waste water, an intermediate portion constructed of a submerged membrane section that includes submerged membranes are arranged in a plurality of tiers and a diaphragm for vibrating the submerged membranes and an upper portion where a pH meter is placed, from the lower portion, thereby carrying out membrane separation.

93. (Original) The metal containing waste water treatment method as claimed in claim 92, wherein

the vibrating device is constructed of a frequency transmitter, a diaphragm and a signal line for transmitting a signal from the frequency transmitter to the diaphragm.

94. (Original) A metal containing waste water treatment method for treating a metal containing waste water by firstly generating a hydroxide with a pH adjuster added, secondly carrying out foam separation by making bubbles adhere to the hydroxide in a foam separation tank and thirdly introducing a water obtained from the foam separation tank into a multistage type submerged membrane separation unit having submerged membranes arranged vertically in a plurality of tiers and cleaned by air discharged from one air diffusion pipe.

95. (Original) The metal containing waste water treatment method as claimed in claim 94, wherein

the multistage type submerged membrane separation unit has an unloading port for unloading the submerged membranes arranged vertically in a plurality of tiers by horizontally moving the submerged membranes.

96. (New) The metal containing waste water treatment method as claimed in claim 1, wherein

the water separated in the submerged membrane section is pretreated by being introduced into a pretreatment system and recycled as a raw water for an ultrapure water generating system.

97. (New) The metal containing waste water treatment method as claimed in claim 96, wherein

the pretreatment system is any one or a combination of an activated carbon absorption unit, an ion exchange unit and a reverse osmosis membrane unit.

98. (New) The metal containing waste water treatment method as claimed in claim 1, wherein

the metal containing waste water is a waste water that contains gallium arsenide, and the metal precipitated and concentrated in the precipitation section is gallium hydroxide.